

REMARKS

Claims 18-45 are pending. The Office Communication indicates that applicants' submission filed 12/12/06 is not fully responsive as the claims were apparently drawn to a new invention, which is not permitted in an RCE filing.

Applicants thank the Examiner for noting the informality. Applicants have now amended the claims so that they now read as "method" claims.

Applicants respectfully traverse the § 101 rejections of the claims (Office Action dated August 9, 2005).

Applicants note that their invention and in particular the method claims relate to the practical art of "designing" biomolecules, for example, for pharmaceutical or medical application applications. Applicants submit that the pending claims are all directed to methods that produce concrete, tangible and useful results with practical applications. Applicants note that the §101 claim rejection appears to be based on the unwarranted concern that the results of the claimed methods involve computation of probabilities, and therefore (paraphrasing the Office Action ¶1 page 3) are not useful, tangible or concrete. Applicants submit that this conclusion is mistaken. Probabilities can and are useful as tangible and concrete results for practical applications. Well known examples of probability-based practical applications include applications such as weather forecasting, and longevity or risk model based financial instruments. Applicants note that each of the pending claims involves not only computation of probabilities but also identification or selection of a most likely or highest probability. These are definite and concrete results.

Applicants submit that it is common knowledge and ordinarily understood in the art (e.g., bioengineering) that "identifying a most likely biological pathway of a set of interacting molecules . . . [by] selecting an oriented network graph as the most likely biological pathway based on the probabilities" (see e.g., claim 18); "identifying a most likely biological pathway of a set of interacting molecules . . . having the highest posterior probability" (see e.g., claim 36); "identifying a molecular interaction in a biological network . . . corresponding to the highest of the determined molecular interaction probabilities" (see e.g., claim 38); and "identifying a compound capable of

modifying the interaction between molecules in a biological molecule" (see e.g., claim 44), are all concrete, tangible and useful results with practical applications, for example, in drug design or targeted medical therapy.

Applicants therefore request that the § 101 rejection be withdrawn.

Conclusion

Applicants respectfully submit that this application is now in condition for allowance. Reconsideration and prompt allowance of which are respectfully requested.

Applicants request that the Examiner should kindly contact the undersigned attorney by telephone for discussion in case there are any remaining issues that need to be resolved.

Respectfully submitted,

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